CONCEPT LR UNIT MOUNTED LIGHT
MODEL L DENTAL OPERATING LIGHT SPECIFICATIONS

Description

The Model L Light is a dental light designed for the general dentistry market. The Concept LR light is specifically designed to mount to Knight chairs in conjuction with the Knight Concept LR unit.

Space Requirements

The Concept LR light is mounted on the center line of the chair under the forward end of the seat. The light swings to the left or right side of the chair. Clearance of 32.0” (81.3 cm) from the center line of the chair is recommended, on either side, to avoid interference with wall, cabinets, furniture, etc. (Refer to Figure 1 and 2) for detailed dimensions and space requirements).

Mechanics

The Concept LR light consists of the curved mounting post, fixed arm, flex arm (counterbalanced arm), and light head assembly. The curved mounting post rotates from one side of the chair to the other at Axis F. The fixed arm rotates 360° horizontally at Axis E. The flex arm rotates 300° horizontally at Axis D and moves 65° vertically at Axis C. The light head assembly travels 28.3 in. (71.9 cm) vertically at the end of the flex arm. Handles are attached at the pivot point of the light head assembly and provide smooth fingertip rotation of the light head 300° horizontally at Axis B and 180° vertically at Axis A . The handles also allow positioning of the entire light assembly.

A three position rocker switch is provided for the selection of secondary voltages for the bulb. The three positions are labeled high, medium and low corresponding to the three intensities produced.

A two position rocker switch is provided for the selection of "Operate" or "Composite" color temperature ranges.

A three position rocker switch is provided for the light AUTO/ON/OFF. This three position switch controls the bulb voltage but not the line voltage. The AUTO switch position provides the operator with the ability to control the on/off function by moving the light head up and down. The ON/OFF position overrides the auto switch and turns the light on or off.

Electrical

The light has a 105, 115 and 125 volt transformer tap to allow operation over a line voltage range of 95 - 130 volts at a frequency of 50 or 60 hertz or a 200 and 240 volt transformer tap to allow operation over a line voltage range of 200 - 260 volts at a frequency of 50 or 60 hertz.

The transformer is located in the APC (Accessory Power Chassis) which in turn is located in the “J” Box (Connections Box).

The transformer is continuously energized unless power is removed by turning off the master switch on the front of the “J” box, disconnecting the power supply to the “J” box, disconnecting the power supply to the APC or by actuating a separate wall switch wired for that purpose. The transformer contains an automatically resetting thermal protector. Power consumption is approximately 110 watts.

The rating and requirements for the 120 vac model are 1 amp and 50/60 Hz.

The rating and requirements for the 240 vac model are 1/2 amp and 50/60 Hz.

Optics

The color temperature of the light is 5250 degrees kelvin nominally. Due to manufacturing tolerances, a variation of 750 degrees kelvin from nominal is permitted. Color correction is accomplished by a front surface dichroic coating. This coating is able to withstand the normal abrasion which results from routine cleaning for a period of at least 5 years. Routine cleaning of the reflector is to be done with soft facial tissue and denatured alcohol on a bi-weekly basis.

The reflector is approximately 9 inches wide and 8 inches high and is made of borasilicate glass. It contains 4576 facets to yield maximum uniformity of intensity within the pattern, and to reduce the production of shadows. The light pattern at focus is approximately 8 inches wide and 3 inches high and oval shaped. To minimize eye fatigue, the intensity of the light falls off gradually starting at the edge of the pattern (feathered). The intensity, 3 inches from the horizontal axis of the pattern, is less than

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5% of the intensity on the axis. This prevents high intensity light from striking the patient's eyes.

A clear plastic (lexan) safety shield is provided to protect the dichoric coated surface of the reflector from dust and debris, and to protect the patient from glass particles in the event of bulb explosion. The safety shield is inexpensive and easily removed by removing the lamp shield.

A 2.5 inch decorative lamp shield is provided to protect the patient and/or dentist from looking directly at the bulb and to hold the safety shield in place. This decorative lamp shield can be easily removed to allow access to the bulb or safety shield to facilitate replacement.

The bulb is a tungsten halogen type with a G 6.35 bi-pin to allow easy field replacement. The bulb has a nominal life of 1200 hours which typically represents 2 - 3 years of life.

Metal and Plastic Surfaces

All exposed metal surfaces are either zinc plated or painted Sterling Gray color (RAL7035) with polyester/epoxy blend powder coat. The plastic surfaces are vacuum formed Acrylic capped ABS colored Sterling Gray and are fire rated under UL Classification 94V-1 & 94V-0.

Codes

The Model L Concept LR light is ETL listed and conforms to UL STD. 2601-1 and is certified to CAN/CSA - C22.2.

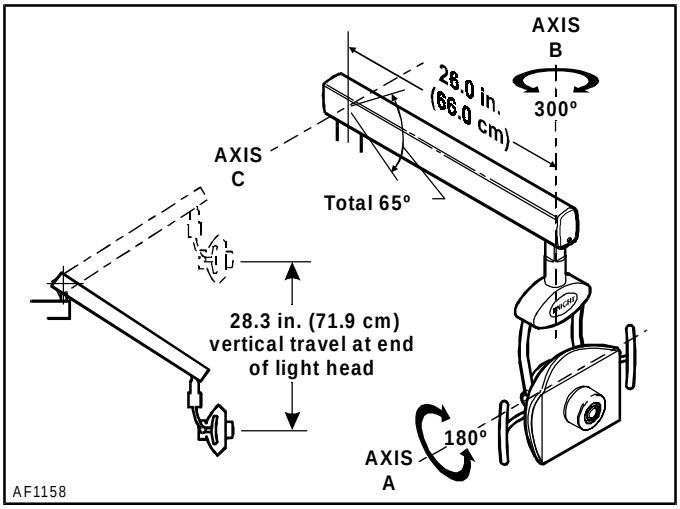

Figure 1 - Flex Arm

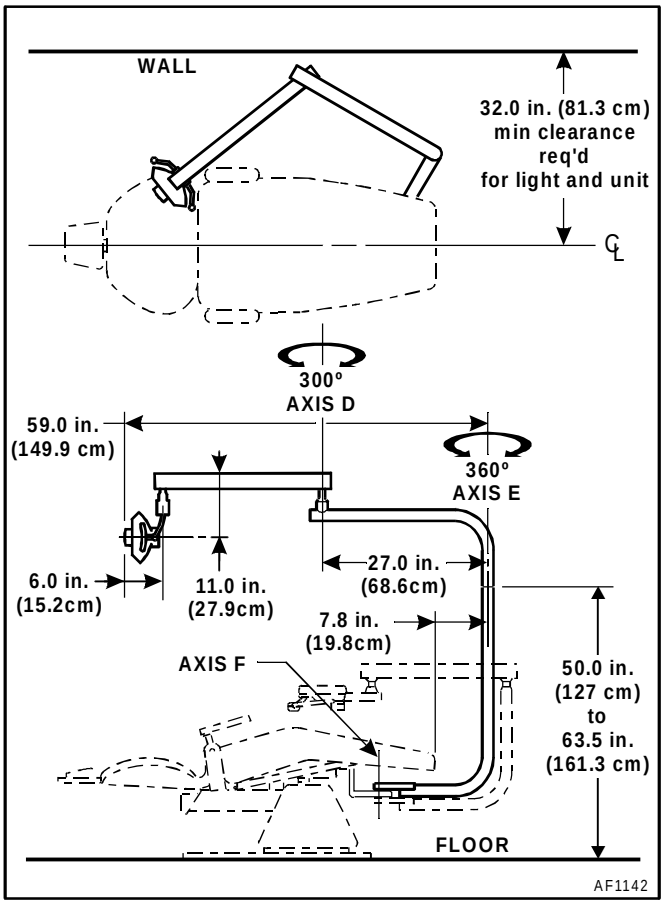

Figure 2 - Space Requirements